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 Institute of Physics. [Conference on X-ray analysis. Manchester, April, 1958.] Proceedings, 1999. [Colloquium on X-ray fluorescence analysis. London, February and April, 1958.] Proceedings, 2000.
 International Commission for Uniform Methods of Sugar Analysis. ICUMSA, 12th Session. Washington, June, 1958]. Recommendations adopted, 1093.
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UNITED STATES PATENT

<i>Patent No.</i>	<i>Abstr. No.</i>
2,818,851,	209.

ABBREVIATIONS

Certain abbreviations in everyday use are not included in the following list. When any doubt might arise from the use of an abbreviation or symbol the word is printed in full.

alternating current	a.c.	milli-equivalent	milli-equiv.
ampere	amp.	milligram	mg
Ångström unit	Å	millilitre	ml
anhydrous	anhyd.	millimetre	mm
approximate, -ly	approx.	millimicrogram	m μ g
aqueous	aq.	millimolar	mM
atmospher-e, -ic	atm.	millivolt	mV
boiling-point	b.p.	minute (time)	min.
British thermal unit	B.Th.U.	molar (concentration)	M
calorie (large)	kg-cal.	molecul-e, -ar	mol.
calorie (small)	g-cal.	normal (concentration)	N
centimetre	cm	optical rotation	α_d^t
coefficient	coeff.	ounce	oz
concentrated	conc.	parts per million	p.p.m.
concentration	concn.	per cent.	%
constant	const.	per cent. (vol. in vol.)	% (v/v)
corrected	(corr.)	per cent. (wt. in vol.)	% (w/v)
crystalline	}cryst.	per cent. (wt. in wt.)	% (w/w)
crystallised		potential difference	p.d.
cubic	cu.	precipitate (as a noun)	ppt.
current density	c.d.	precipitated	pptd.
cycles per second	c/s	precipitating	pptg.
density	ρ	precipitation	pptn.
density, relative	d or wt. per ml	preparation	prep.
dilute	dil.	qualitative, -ly	qual.
direct current	d.c.	quantitative, -ly	quant.
distilled	dist.	recrystallised	recryst.
ethylenediaminetetra-acetic acid	EDTA	refractive index	n_λ
electromotive force	e.m.f.	relative band speed	R_p
equivalent	equiv.	relative humidity	r.h.
gram	g	revolutions per minute	r.p.m.
gram-molecule	mole	saponification value	sap. val.
half-wave potential	$E_{\frac{1}{2}}$	saturated calomel electrode	S.C.E.
hour	soluble	second (time)	sec.
hydrogen ion exponent	pH	soluble	sol.
infra-red	i.r.	solution	soln.
insoluble	insol.	specific gravity	sp. gr.
international unit	i.u.	specific rotation	$[\alpha]_\lambda^t$
kilogram	kg	square centimetre	sq. cm.
kilovolt	kV	standard temp. and pressure	s.t.p.
kilowatt	kW	temperature	temp.
liquid	liq.	ultra-violet	u.v.
maxim-um, -a	max.	vapour density	v.d.
melting-point	m.p.	vapour pressure	v.p.
microgram	μ g (not γ)	volt	V
microlitre	μ l	volume	vol.
micromole	μ mole	watt	W
micron	μ	wavelength	λ
milliampere	mA	weight	wt.

In addition, the following symbols may be used in conjunction with numerical values or in mathematical expressions—

greater than	>	less than	<
not greater than	$\nlessgtr$	not less than	$\nlessgtr$
is proportional to	$\propto$	of the order of, approximately	$\approx$

The principal Pharmacopoeias are denoted by B.P., U.S.P., or D.A.B., together with the identifying roman numeral or year.

Valency states are represented by a superscript roman numeral, *e.g.*, Fe^{II}, Mo^V. Substances in the ionic state are represented by Na⁺, Fe²⁺, Fe³⁺, etc., for cations and by Cl⁻, SO₄²⁻, PO₄³⁻, etc., for anions.







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